

# Multiple-Choice Practice Pages

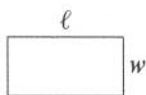
## Directions

In this section, solve each problem using any available space on the page for scratchwork. Then decide which is the best of the given choices and fill in the corresponding oval on the answer sheet.

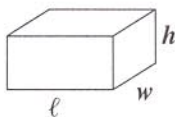
### Notes:

- (1) The use of calculators is permitted. All numbers used are real numbers.
- (2) Figures that accompany problems in this test are intended to provide information useful in solving the problem. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.

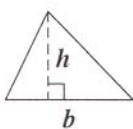
## Reference Information



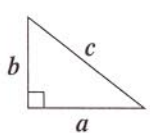
$$A = \ell w$$



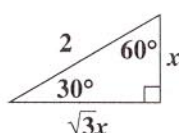
$$V = \ell wh$$



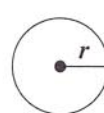
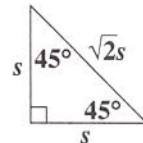
$$A = \frac{1}{2} bh$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



$$A = \pi r^2$$
$$C = 2\pi r$$



$$V = \pi r^2 h$$

The number of degrees of arc in a circle is 360.

The measure in degrees of a straight angle is 180.

The sum of the measures of the angles of a triangle is 180.

1 If  $16 \times 16 \times 16 = \frac{64 \times 64}{n}$ , then  $n =$

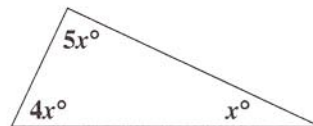
- (A)  $\frac{1}{4}$
- (B) 4
- (C) 1
- (D) 16
- (E) 64

- 3 The average age of three people running for election was 42. A fourth person joins the race and the average drops to 40. What is the maximum age of the fourth person?

- (A) 32
- (B) 34
- (C) 35
- (D) 36
- (E) 40

2 The fraction  $\frac{30}{48}$  equals all of the following EXCEPT

- (A)  $\frac{5}{8}$
- (B)  $\frac{3}{12}$
- (C)  $\frac{10}{16}$
- (D)  $\frac{15}{24}$
- (E) 0.625



- 4 In the triangle above,  $4x =$

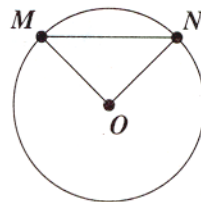
- (A) 9
- (B) 18
- (C) 32
- (D) 40
- (E) 72

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5 If  $x > y$  and  $z < 0$ , which of the following are true?

- I.  $xz < yz$
- II.  $x + z > y + z$
- III.  $x - z < y - z$

- (A) I only
- (B) II only
- (C) I and II only
- (D) II and III only
- (E) I, II, and III



10  $O$  is the center of the circle above.  $\overline{MO}$  is perpendicular to  $\overline{NO}$ , and the area of triangle  $MON$  is 40. What is the area of circle  $O$ ?

- (A)  $160\pi$
- (B)  $80\pi$
- (C)  $60\pi$
- (D)  $40\pi$
- (E)  $20\pi$

6 A point on the graph of  $x + 3y = 13$  is

- (A) (4, 4)
- (B) (-2, 3)
- (C) (4, -3)
- (D) (-5, 6)
- (E) (5, -3)

7 Which of the following is true if  $|x + 3| > 5$ ?

- (A)  $-8 < x < 2$
- (B)  $x > 2$
- (C)  $x < 2$
- (D)  $x < -8$
- (E) none of these

11 If  $\frac{1}{p} = \sqrt{0.25}$ , then  $p^2 =$

- (A) 0.25
- (B) 2
- (C) 4
- (D) 25
- (E) 400

8 If  $x @ y = x^2 - y^2$  then  $3 @ (-2) =$

- (A) 5
- (B) 10
- (C) 13
- (D) 25
- (E) 28

12 If  $b$  is an odd integer greater than one, which of the following must be an odd integer?

- (A)  $b^3 - 1$
- (B)  $b^3 - b^2$
- (C)  $1 + b^3$
- (D)  $b + b^2$
- (E)  $\frac{3b - 3}{b - 1}$

9 If  $\frac{a}{b} = c$ , then  $\log c =$

- (A)  $\log a - \log b$
- (B)  $\frac{\log a}{\log b}$
- (C)  $\log(a - b)$
- (D)  $\frac{\log a}{b}$
- (E)  $a \log b$

13 What is the value of  $c$  if  $3x^2 - 12x + c$  is a perfect square?

- (A) 4
- (B) 12
- (C) 16
- (D) 36
- (E) 144